

REMARKS

Present Status of Application

Claims 7-12 remain pending in the application. The Office Action mailed December 23, 2003, rejected claims 1-6 under 35 USC§102(b) as being anticipated by Weld (Us Patent No. 5,696,405). Claims 7-10 were rejected under 35USC§103(a) as being unpatentable over applicant's admitted prior art (AAPA) in view of Chen et al. (US Patent No. 6,263,957). Claims 11-12 were rejected under 35USC§103(a) as being unpatentable over AAPA in view of Chen and further in view of Weld.

Claim 7 has been amended, while claims 1-6 have been cancelled. No new matter has been added to the application by the amendments made to the specification, claims and drawings. This Amendment is promptly filed to place the above-captioned case in condition for allowance. After entering the amendments, a notice of allowance is respectfully solicited.

Discussion for 35 USC §102 and 103 rejections

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The Applicant has carefully considered the remarks set forth in the Office Action.

Claims 1-6 have been cancelled. Withdrawal of these rejections under 35USC§102 for claims 1-6 is thus respectfully requested.

Claim 7 has been amended to more clearly define the structure according to the present invention. The supporting grounds for this amendment can be found in Fig. 6. As amended, independent claim 7 clearly recites:

*7. A package structure that is compatible with a cooling system, comprising:
a carrier;
at least a chip, arranged on the carrier and electrically connected to the carrier;
a mold compound, covering the chip and one surface of the carrier; and
a cooling tubule disposed directly on an outer surface of the mold compound, wherein the cooling tubule is connected to the cooling system, wherein the cooling system is a closed system and a fluid driven by a pump circulates within the cooling tubule and the cooling system.*

AAPA merely discloses a package structure with a heat dissipation plate. As noted by the Office Action, AAPA fails to teach or suggest the cooling tubule disposed on an outer surface of the mold compound, wherein the cooling tubule is connected to the cooling system, wherein the cooling system is a closed system and a fluid driven by the pump circulates within the cooling tubule and the cooling system.

The Office Action relied on Chen et al. for teaching the lacking features.

However, Chen merely discloses a cooling device containing a coolant and mounted on the power supply for cooling the power supply. From Chen's Figs. 1A-1B, a pump 170 is supported by a plate 180 that is coupled to the board mounted power supply 100 and a portion of the circulation pipe 160 is disposed within the channel 185 in the

plate 180. According to Chen's statement, "...the circulation pipe having a heat receiving portion disposed in the channel to place the heat-receiving portion in thermal communication with the plate, ..." (Col. 2, lines 5-8).

Nowhere in Chen's disclosure teaches the cooling tubule disposed directly on the outer surface of the mold compound as claimed in the present invention.

Furthermore, even if Chen's cooling device is mounted on the package structure of AAPA, as suggested by the Office Action, the combination fails to arrive at the present invention as claimed. Since AAPA teaches the package structure having the heat dissipation plate disposed on the surface of the mold compound and Chen discloses the circulation pipe installed within the plate, the combination of both shall result in the pipe within the plate of the cooling device mounted on the heat dissipation plate on the package structure, which is different to the features as claimed in this invention.

As a result, Applicant submits that amended independent claim 7 patently defines over the cited reference. Regarding the rejection under 35 USC 103(a), the Applicants submit that dependent claims be patentably distinguishable over the cited references for at least the same reasons as the independent claim 7, from which these claims respectively depend, as well as for the additional features that these claims recite.

In view of the above amendment and discussions, reconsideration and withdrawal of the 103 rejections are respectfully requested.

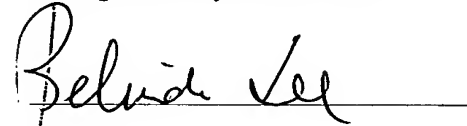
CONCLUSION

In view of the foregoing, it is believed that all pending claims are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Date :

March 19, 2004

Respectfully submitted,



Belinda Lee

Registration No.: 46,863

Jianq Chyun Intellectual Property Office
7th Floor-1, No. 100
Roosevelt Road, Section 2
Taipei, 100
Taiwan
Tel: 011-886-2-2369-2800
Fax: 011-886-2-2369-7233
Email: belinda@jcipgroup.com.tw
Usa@jcipgroup.com.tw